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**Elementary species and hybrids of *Capsella*.**—SHULL<sup>34</sup> has published an extract from his paper at the recent New York meeting of the American Association. The raising of over 20,000 "pedigreed" specimens demonstrated the presence of at least four elementary species that breed true when self-pollinated or crossed within the limits of the same elementary form. The bearing of these experimental results upon questions of plant-breeding under discussion is compactly outlined.—J. M. C.

**Sporogonium of *Notothylas*.**—LANG<sup>35</sup> has made a study of the sporogonium of a *Notothylas*, presumably *N. Breutelii*, growing in the Singapore Botanic Gardens. The embryogeny is in no way different from that of the other Anthocerotales except that more or less of the endothecium is sporogenous. LANG thinks *Notothylas* is a rather artificial genus which includes a number of forms derived by reduction in size of the sporogonia from one or more *Anthoceros*-like forms.—W. J. G. LAND.

**Sporangium of *Equisetum*.**—HAWKINS<sup>36</sup> has described a situation in the development of the sporangium of *Equisetum hiemale* which is hard to understand. The superficial sporangium initial divides periclinally, as usual, but the inner cell is said to be sterile, and the outer to give rise to the sporogenous tissue, which is certainly not the eusporangiate habit. With this interpretation, the sporogenous tissue is superficially exposed and forms the so-called wall-layers.—J. M. C.

**Ovules of *Juniperus*.**—KUBART<sup>37</sup> regards the ovulate structures in *Juniperus* as a single flower and not as an inflorescence, the ovules being simply transformed leaves, and the ovuliferous scale an aril. The ovulate and staminate flowers show a perfectly analogous structure. The paper contains a short discussion of the phylogeny of gymnosperms.—CHARLES J. CHAMBERLAIN.

**Formative substances.**—CHILD's thorough criticism of the hypotheses of "formative substances" as applied to the phenomena of development, regeneration, polarity, etc., in animals deserves attention by botanists, since like general assumptions, which involve special assumptions in an endless chain, have some currency in plant physiology.<sup>38</sup>—C. R. B.

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<sup>34</sup> SHULL, GEORGE H., Elementary species and hybrids of *Bursa*. Science N. S. 25:590-591. 1907.

<sup>35</sup> LANG, W. H., On the sporogonium of *Notothylas*. Annals of Botany 21:201-210. pl. 21. 1907.

<sup>36</sup> HAWKINS, LON A., The development of the sporangium of *Equisetum hiemale*. Ohio Nat. 7:122-128. pls. 9-10. 1907.

<sup>37</sup> KUBART, BRUNO, Die weibliche Blüthe von *Juniperus communis* L. Sitzber. Kais. Akad. Wiss. Wien 114:1-29. pls. 1-2. 1905.

<sup>38</sup> CHILD, C. M., Some considerations regarding so-called formative substances. Biol. Bull. 11:165-181. 1906.